



**US Army Corps  
of Engineers®**

**USACE NavLocks System  
High Performing Organization  
Performance Work Statement  
19 February 2008**



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## **PREFACE**

This performance work statement (PWS) describes the performance requirements for the U.S. Army Corps of Engineers (USACE) Navigation Locks and Dams (NavLocks) System, that is, the activities performed to manage, operate, and maintain the system. It is a performance-based document that focuses on desired outcomes rather than prescribing every activity step required to achieve them. It also addresses the entire system instead of each individual lock and dam, but does not imply any particular structure—local, regional, or national—for the Navigation Locks and Dam System High-Performing Organization (HPO).

After the PWS has been reviewed and comments resolved, the NavLocks System team will develop alternatives for the structure of the organization and will recommend one for review by division commanders and Headquarters, U.S. Army Corps of Engineers (HQUSACE).

USACE is committed to

- effective and efficient mission accomplishment,
- responding to the needs of our customers in the inland navigation industry,
- maximizing the use of the skills and abilities of our existing navigation workforce, and
- honoring commitments to local bargaining unit members through existing collective bargaining agreements.

This PWS specifies performance-based outcomes for the NavLocks System that align with and contribute to the overall USACE goals of efficiency, safety, effectiveness, reliability, and environmental sustainability.

## **C.1. INTRODUCTION**

USACE facilitates the safe, reliable, and economically efficient movement of vessels in the Nation's navigable harbors, rivers, waterways, and canals by operating and maintaining the NavLocks System series of locks and dams in these waterways. This NavLocks System includes operation and maintenance (O&M) of locks and dams, construction and maintenance of navigation channels, and regulation of water levels on inland rivers and waterways.

The system of navigation waterways developed and maintained by USACE is an integral and critical part of the Nation's intermodal (rail, highway, airway, and waterway) transportation system. More than 60 percent of domestic waterborne tonnage travels on the inland navigation system, including major commodities such as petroleum, coal, sand, gravel, and stone. The locks accommodate 80 percent of all domestic barge traffic.<sup>1</sup> The inland and coastal waterway transportation system carries one-sixth of the Nation's volume of industrial materials, commodities, and products. Coastal ports and the Great Lakes furnish the deep and shallow draft capabilities important to the Nation's foreign trade, on which nearly 25 percent of our

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<sup>1</sup> Source: USACE Waterborne Statistics Center.

economic activity depends. The navigable harbors, rivers, waterways, and canals support the mobilization and sustainability of America's military and are critical to national defense.

This PWS includes the functions, services, and tasks associated with managing, operating, and maintaining the critical parts of the NavLocks System for which USACE is responsible. The navigation mission is a subset of a much larger USACE watershed management function, so decisions concerning the NavLocks System affect other watershed management mission areas and, thus, must be made holistically. O&M of the NavLocks System must work in concert with other water management functions (flood damage reduction, hydropower, environmental, etc.) to avoid unintended consequences or adverse impacts on the execution of each function.

### C.1.1. BACKGROUND INFORMATION

USACE maintains more than 12,000 miles of inland waterways and owns or operates 257 locks at 212 sites on inland waterways. These waterways—a system of rivers, lakes, canals, and coastal bays improved for commercial and recreational transportation—carry about one-sixth of the Nation's intercity freight, at about half the cost of rail or 1/10th the cost of trucks per ton-mile.

Waterways can move large volumes of bulk commodities over long distances. The cargo capacity of a typical barge is equivalent to that of 15 large railroad cars or 58 tractor-trailers. A representative 15-barge tow on a main-stem waterway moves the same cargo as 870 trucks stretching 35 miles on the Interstate Highway System. That same cargo would require two 100-car trains extending nearly 3 miles in length.

The 12,000 miles of inland and intracoastal waterways operate as a system, as do highways, and much of the commerce moves on multiple segments, which serve as connecting arteries, much as neighborhood streets help people reach interstate highways. USACE operates these waterways as multipurpose, multiobjective projects. They not only serve commercial navigation but, in many cases, provide hydropower, flood damage reduction, municipal water supply, and recreation.

### C.1.2. USACE CIVIL WORKS NAVIGATION MISSION AND ORGANIZATION

USACE executes its command and control through eight major subordinate commands (MSCs), also defined as USACE divisions. Most of its workload is performed by the districts that have a civil works mission, military programs mission, or a combination.

The watershed geography of the Nation's river systems dictates the boundaries and organization of the divisions and districts. As shown in Figure 1, the civil works operation is managed within major watershed areas, and those areas also define the civil works division boundaries.

#### C.1.2.1. HQUSACE

HQUSACE in Washington, DC, consists of an Executive Office and 17 Staff Principals. It creates policy and plans the future direction of subordinate USACE organizations.

*Figure 1. USACE divisions, Showing Civil Works “Watershed” Boundaries*



### C.1.2.2. Divisions and Districts

USACE is organized geographically into 45 subordinate districts in the United States, Asia, and Europe. The districts oversee project offices throughout the world. Not all of these divisions and districts have a navigation mission. Divisions and districts are defined by watershed boundaries for their civil works missions (Figure 1).

### C.1.2.3. USACE Laboratories

The Engineer Research and Development Center (ERDC) is the USACE research and development command. It consists of seven unique laboratories that perform research in all functions of the navigation business line.

#### C.1.2.4. Other USACE Organizations

Several other major organizations within USACE directly support the NavLocks System mission:

- The U.S. Army Engineering and Support Center, Huntsville, provides engineering and technical services, program and project management, construction management, and innovative contracting initiatives for programs that are national or broad in scope or not normally provided by other USACE elements. The NavLocks System employees receive some training from this center.
- The Finance Center supports the finance and accounting functions throughout USACE, and provides payroll services for the NavLocks System organizations.
- The Humphreys Engineer Center (HEC) provides administrative and operational support for HQUSACE and USACE field offices. The Institute for Water Resources, within the HEC, supports the Civil Works Directorate and other USACE offices by developing and

applying new planning evaluation methods, policies, and data in anticipation of changing water resources management conditions.

- The Marine Design Center provides total project management, including planning, engineering, and shipbuilding contract management in support of USACE, Army, and national water resource projects in peacetime and augments the military construction capacity in time of national emergency or mobilization.

Figure 2 shows the rivers, waterways, and assets involved with the NavLocks System.<sup>2</sup>

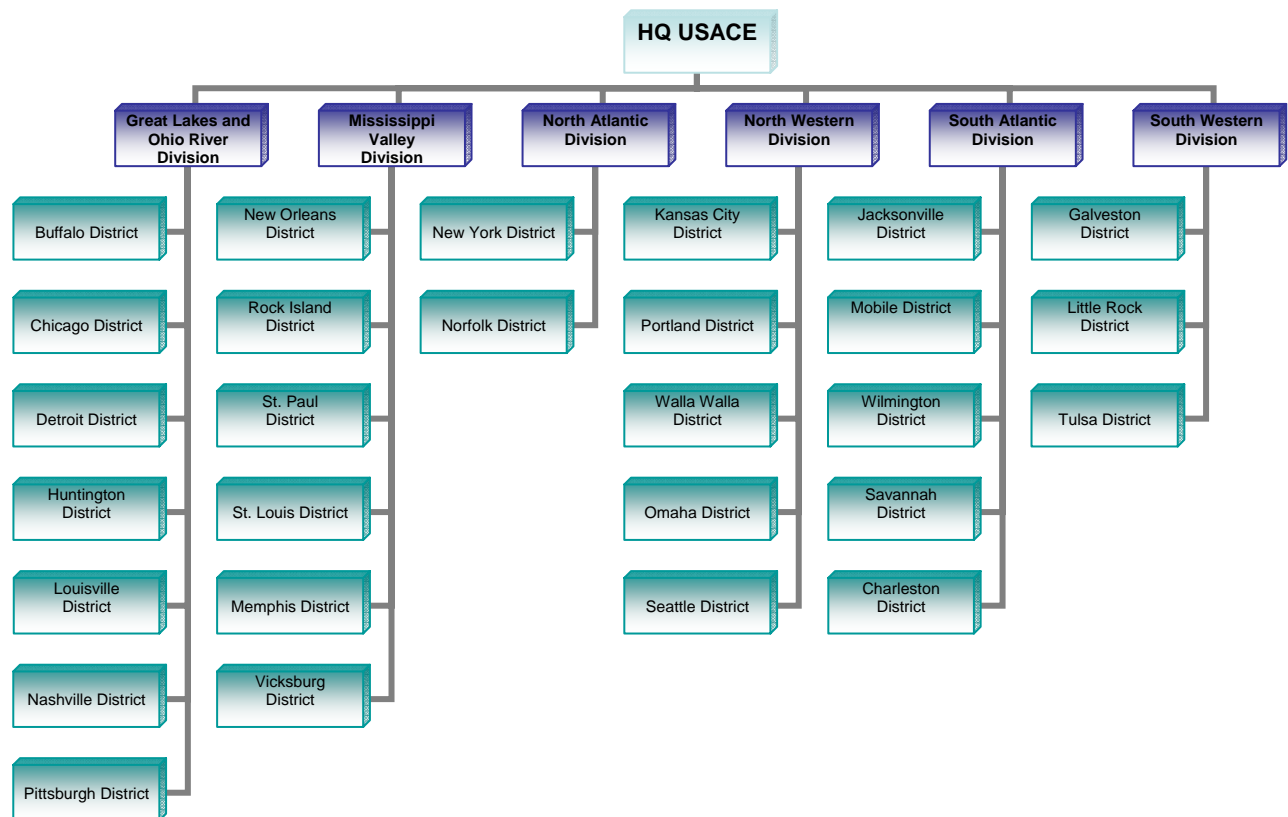


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<sup>2</sup> This is not a complete representation of the locks included in the PWS scope. See TE3-C Lock site locations for a list of locks included in the scope.

Not all divisions and districts have NavLocks System mission responsibility. Figure 3 is a notional representation of organizational elements involved with the NavLocks System.

*Figure 3. USACE Civil Works Navigation Organization Chart*



### C.1.3. OVERALL RESPONSIBILITIES

USACE is committed to long-term collaboration with our customers to balance consistent service with the risk and benefit of continuous innovation and process improvement. Organizations resulting from this HPO initiative will be responsible for managing, operating, and maintaining the NavLocks System. This responsibility extends to budget preparation and submission and the planning, control, and management needed to sustain a customer-focused, safe, cost-effective, and efficient NavLocks System.

These functions will be accomplished with a business approach that recognizes the entire NavLocks System and introduces best business practices into the USACE navigation culture and everyday operations. This responsibility will be all encompassing and will include USACE resources, contracts, and inter/intra service support agreements (ISSAs), memorandums of agreement (MOAs), memorandums of understanding (MOUs), and letters of instruction (LOIs) listed in TE-1, Performance Requirements Summary.

To maximize the efficiency, effectiveness, and sustainability of the NavLocks System identified.

- Operate the locks and dams as a safe system by making decisions that optimize the system functionality.

- Operate to ensure sustainability of the environment.
- Optimize and standardize lock and dam operations with similar conditions to best-in-class procedures.
- Optimize and standardize the lock and dam maintenance with similar conditions to best-in-class procedures.
- Optimize the channel conditions to support the system functionality

The PWS is focused on performance-based outcomes that are based on these tenets.

#### C.1.4. ENVIRONMENTAL OPERATING PRINCIPLES

USACE has reaffirmed its commitment to the environment by formalizing a set of "Environmental Operating Principles," which apply to all its decision-making and programs. The principles are consistent with the National Environmental Policy Act, the *Army Strategy for the Environment* (with its emphasis on sustainability and triple bottom line of mission, environment, and community), other environmental statutes, and the Water Resources Development Acts that govern USACE activities. The principles also dovetail with USACE's 12 Actions for Change, especially Action Six, Focus on sustainability.<sup>3</sup>

#### C.1.5. SECURITY REQUIREMENTS

NavLocks System employees and contractors must meet the security requirements to work in Government facilities.

#### C.1.6. MINIMUM PERSONNEL QUALIFICATIONS

The HPO will staff the NavLocks System with experienced and qualified personnel having all the skills necessary to perform the work identified in the PWS. Not all skills are required at all locations. NavLocks System personnel must have valid licenses and certifications when required to perform the work.

#### C.1.7. QUALITY CONTROL

The HPO will establish a quality control plan that ensures services and equipment will meet the performance standards.

#### C.1.8. QUALITY ASSURANCE

The Government will monitor performance and timeliness as specified in TE-1, Performance Requirements Summary.

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<sup>3</sup> USACE, *U.S. Army Corps of Engineers releases its "12 Actions for Change,"* August 24, 2006, <http://www.hq.usace.army.mil/cepa/releases/actionsforchange.htm>.

### **C.1.9. NORMAL OPERATING HOURS**

The hours of operation for locks and dams are set in accordance with the project's authorizing legislation, user demand, climatic conditions, and budget conditions. Given these variables within the NavLocks System, current hours of operation for individual locks are shown in TE-2, Lock Hours of Operation & Percent Availability of Lock Chamber.

### **C.1.10. EMERGENCY OPERATIONS**

Emergency responses involve support of local, tribal, State, Federal, and international efforts. Activities may entail extended work shifts of 12–16 hours a day. Environmental conditions at work locations may range from excessive heat and humidity to extreme cold and rain. Mobilization and deployment may be required during emergency response activities.

## **C.2. DEFINITIONS AND ACRONYMS**

### **C.2.1. DEFINITIONS**

Definitions are listed in Appendix A.

### **C.2.2. ACRONYMS**

Acronyms are listed in Appendix B.

## **C.3. GOVERNMENT-FURNISHED PROPERTY**

All property required (as budgeted) to support the NavLocks System operation is Government furnished. USACE has identified the Government-furnished property (GFP) through the Real Estate Management Information System (REMIS) and hand receipts or property books. The HPO will direct and reposition GFP as required to maintain system availability.

## **C.4. SERVICE PROVIDER (NAVLOCKS)-FURNISHED PROPERTY**

The HPO will furnish property not otherwise provided as GFP to support the navigation mission. It will prepare and submit a budget request for additional property as required through the USACE budget process.

## **C.5. NavLocks System Scope**

Organizations resulting from this HPO initiative will furnish the resources needed to command and control the NavLocks System, including managing, planning, controlling, operating, preparing maintenance engineering designs, and maintaining the NavLocks System to meet the performance standards stated in this PWS. The system is composed of multiple river systems, including river lock structures, dam structures, and channels that must work as a system to optimize the waterways for commercial transportation. The HPO will be responsible for the management, scheduling, and control of the maintenance fleets.

Paragraphs C.5.1 through C.5.11 describe the major components of the navigation system. The exclusion of a specific component does not relieve or minimize the responsibility to meet the performance requirements for the NavLocks System. The major components are not listed

in a specific performance order or in order of importance for achieving the desired performance levels.

#### C.5.1. OPERATE LOCK

The HPO will operate locks in accordance with appropriations, annual authorization, Army and engineering regulations, and policy and technical guidance. Lockages will be performed on demand or on schedule in accordance with priorities defined in TE-2, Lock Hours of Operation & Percent Availability of Lock Chamber. Queued vessels will transit the locks in accordance with established procedures and standards.

To ensure effective lock operation and system availability, the following activities are required:

##### C.5.1.1. Monitor River for Approaching Traffic (Upstream/Downstream)

Monitor traffic upstream and downstream and communicate with customers to optimize the sequencing of lock operations. (TE-3, FY2006 Lockages by Vessel Type)

##### C.5.1.2. Respond to Lock Stoppage Conditions

Take appropriate corrective action to restore the lock to operational status when the lock stoppage requires a lock repair (see C.5.3.). Lock stoppages include weather, accident, damage, and electrical, mechanical, or structure failure.

##### C.5.1.3. Record Data

Enter lockage usage data and information into information systems, such as LPMS and OMNI. The systems are used per ER 1130-2-520 (Chapter 6). (TE-3, FY2006 Lockages by Vessel Type)

##### C.5.1.4. Operate Bridges

Operate bridges identified in TE-4, Bridges, to allow safe vessel transit, using the bridge standard operating procedures.

##### C.5.1.5. Perform Emergency Preparation and Recovery

Prepare for and recover from flood events and other emergencies and maintain a plan to prepare for and respond to flood events. This may require evacuation of personnel and equipment, materials, and supplies to safeguard life and equipment.

##### C.5.1.6. Respond to Emergency Situations

Respond to lock safety emergencies resulting from inclement weather, national disasters, and other unexpected events and coordinate with other agencies as necessary.



## C.5.2. OPERATE DAM

Effective dam operations are needed to meet NavLocks System availability and flood control expectations in accordance with appropriations, authorization, Army and engineering regulations, and policy and technical guidance. Dam operations include all activities associated with the operation of a navigation dam structure and associated facilities and equipment. These dams release water through the operation of spillway gates and other outlet works, flood control, and maintenance of a navigation pool.

To ensure effective dam operation and support system availability, the following activities are required:

### C.5.2.1. Maintain Pool Level

Maintain the pool level at the level defined in the water control manual (and adjustments) and water control plan.

### C.5.2.2. Communicate with NavLocks System Users and Public Regarding Pool Levels and Flow Conditions

Respond to inquiries from users and the public regarding pool level and flow conditions, particularly during high- and low-water conditions or events.

### C.5.2.3. Public Emergency

Assist local users during emergencies in accordance with past practices and policies.

## C.5.3. MAINTAIN AND REPAIR LOCK

The goal of the maintenance and repair program is to minimize unscheduled outages and unavailability to customers. To ensure system availability, the following activities are required:

### C.5.3.1. Perform Lock Maintenance

Perform scheduled preventive maintenance (daily, weekly, monthly, periodic, and routine) according to the preventive maintenance schedule. Track scheduled maintenance using an approved Computerized Maintenance Management System (CMMS). (TE-5, Maintenance Workload & TE-5A Lock Site Locations)

### C.5.3.2. Perform Lock Repair

Perform lock repair to minimize the impact on system availability. Lock repairs include scheduled and unscheduled work to repair or replace a lock, an equipment asset, or an associated component that has failed, broken, or worn out, affecting system readiness, availability, or use. (TE-5, Maintenance Workload)

#### C.5.3.3. Perform Emergency Lock Maintenance and Repair

Perform emergency lock maintenance and repair to minimize the impact on system availability, including unscheduled repairs that need immediate attention to maintain a functional lock (unscheduled unavailability/stoppage). (TE-6, Trends in Unscheduled Unavailable Hours by Reason Code & TE-6A FY06 Unscheduled Unavailable Hrs by Lock Condition Category)

#### C.5.3.4. Document All Maintenance

Document and store accurate records of all maintenance activities, including condition assessments and asset management information, and enter these data into an approved CMMS. (TE-8, FY2006 Navigation Business Line Expenses)

### C.5.4. MAINTAIN AND REPAIR DAM

Perform routine and nonroutine maintenance and repair of dams and associated structures, such as spillways, embankments, outlet works, levees, pumping stations, and other structures. Perform project management and oversight of the maintenance and repair of a navigation dam structure and its associated facilities and equipment to achieve NavLocks System availability.

To ensure system availability, the following activities are required:

#### C.5.4.1. Perform Dam Maintenance

Perform scheduled preventive maintenance (daily, weekly, monthly, periodic, and routine) according to the preventive maintenance schedule.

Track NavLocks System scheduled maintenance in the Facilities and Equipment Maintenance System (FEMS) or similar program.

#### C.5.4.2. Perform Dam Repair

Perform dam repairs to minimize the impact on system availability to customers. Dam repairs are scheduled or unscheduled work to repair or replace a dam, an equipment asset, or an associated component that has failed, broken, or worn out, affecting system readiness, availability, or use.

#### C.5.4.3. Perform Emergency Dam Maintenance and Repair

Perform emergency dam maintenance and repair, including immediate unscheduled repairs to maintain the pool levels, to minimize the impact on system availability.

#### C.5.4.4. Document All Maintenance

Document and store accurate records of all maintenance activities, including condition assessments and asset management information, and enter these data into an approved Computerized Maintenance Management System (CMMS).

#### C.5.5. PERFORM MAJOR MAINTENANCE OF LOCKS AND DAMS

Perform major maintenance of locks and dams, including management and administrative activities related to major scheduled maintenance, repair, and emergency repair to ensure system availability. This may involve personnel at the lock and dam site, central maintenance facility, or mobile maintenance fleet. It may involve personnel from other lock and dam sites inside or outside the parent district, division, and HQUSACE or outside resources.

To ensure system availability, the following activities are required:

##### C.5.5.1. Conduct Scheduled Major Maintenance and Repairs

Perform all activities required for major maintenance and repairs, including planning, scheduling, communicating with users, closing the lock chamber, conducting the maintenance or repairs, and reopening the chamber. Major maintenance and repairs will be performed in a manner that minimizes the impact on system availability.

##### C.5.5.2. Conduct Emergency (Unscheduled) Repairs

Perform emergency repairs as needed to meet the performance requirements described in TE-1, Performance Requirement Summary.

##### C.5.5.3. Maintenance Dredging at Lock and Dam Sites

Perform dredging to remove silt and debris buildup around facility structure and components that limit system availability or jeopardize structural stability.

#### C.5.6. ADDITIONAL NAVIGATION LOCKS AND DAMS ACTIVITIES

Prepare the annual NavLocks System budget, respond to USACE data calls, manage GFP and NavLocks System assets, purchase within credit card limits, ensure security, and conduct public relations.

To ensure system availability, the following activities are required:

##### C.5.6.1. Prepare Annual Lock and Dam O&M Budget

Prepare, coordinate, and submit the annual O&M budget according to annual USACE budget guidance and incorporate consideration of asset management. Execute the approved budget and adjust or realign it to meet changing needs with command approval. Develop the overhead budgets to support rate determinations and training, in coordination with other activities.

##### C.5.6.2. Data Calls

Manage and respond to data calls in accordance with local and higher authority record-keeping policy, guidance, and procedures. Data and information will be captured and maintained in manual and automated information systems.

#### C.5.6.3. Manage Assets

Manage and oversee personal and real property assets assigned to NavLocks System personnel. (TE-5, Maintenance Workload)

#### C.5.6.4. Acquire Supplies, Materials, Parts, Equipment, and Minor Maintenance within Credit Card Purchasing Limits

Acquire supplies, materials, parts, equipment, and minor maintenance required to perform the work required under this PWS. (TE-7, FY2006 Contracts)

#### C.5.6.5. Perform Lock, Dam, and Facility Security

In accordance with USACE policy, provide the physical security and safety for the lock and dam sites according to the site security safety plan. Physical security may include the use of guards (when authorized), perimeter fences, gates (possibly with electronic entry controls), security plans, surveillance cameras, and security screening for those entering the lock and dam site.

#### C.5.6.6. Conduct Public Relations Activities as Required

Conduct site tours for the public and respond to general inquiries.

#### C.5.6.7. Administration of Services Contracts

Perform contracting officer representative (COR) activities (if required) within the limits of delegation letters and support COR activities when required to meet the performance standards of TE-7, FY2006 Contracts.

#### C.5.6.8. Capital Investment

Manage the capital investment program to ensure capital investments are identified, prioritized, supported, and requested. The Plant Replacement and Improvement Program (PRIP) may be used for some capital investments.

#### C.5.6.9. Safety Program

Follow the USACE safety manual, regulations, and policies.<sup>4</sup>

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<sup>4</sup> EM 385-1-1, *Safety—Safety and Health Requirements*, 3 November 2003, <http://www.hq.usace.army.mil/soh/em385/current/current38511.htm>.

## C.5.7. TECHNICAL SUPPORT

### C.5.7.1. Engineering Support

Coordinate with USACE engineering organization elements to determine the most efficient and effective structure and procedures to procure technical services. These services will be aligned and funded to meet the quality, timeliness, and performance requirements of the NavLocks System in TE-1, Performance Requirement Summary.

To ensure effective engineering support, the following activities are required:

#### C.5.7.1.1. Water Control Data Collection and Analysis

Coordinate with USACE engineering elements for water control data collection and analysis, including settings for tainter and roller gates on dams associated with navigation projects, forecasting of river levels, general gate settings (for example, keeping the pool within specified limits using gate settings determined by lock operators), or specific gate settings provided by district office personnel.

#### C.5.7.1.2. Water Quality

Coordinate with USACE engineering elements for water quality activities of navigation pools as required by State water quality certifications.

#### C.5.7.1.3. Lock and Dam Safety for Navigation

Coordinate with USACE engineering elements to support lock and dam safety activities associated with navigation structures, including periodic inspections, instrumentation for structural adequacy, hydraulic steel structure inspections, and bridge inspections.

To ensure effective lock and dam safety support, the following activities are required:

##### C.5.7.1.3.1. Periodic Inspections

Coordinate with USACE engineering elements to support an inspection program that acquires and funds periodic assessments and inspections of hydraulic, geotechnical, mechanical, structural, electrical, and security features.

##### C.5.7.1.3.2. Instrumentation for Structure Adequacy

Coordinate with USACE engineering elements to support instrumentation readings (piezometer readings, movement indicators, settlement measurements, stress measurements, void-beneath-the-structure measurements, scour surveys, and other instruments) to evaluate the structural integrity of navigation locks and dams.

#### C.5.7.1.3.3. Periodic Assessments

Coordinate with USACE engineering elements to support a periodic assessment program, focused on failure modes, that acquires and funds a comprehensive periodic assessment of hydraulic, geotechnical, mechanical, structural, electrical, and security features of the navigation structure every ten years in addition to the periodic inspection that is accomplished every five years.

#### C.5.7.1.3.4. Portfolio Risk Assessment

Coordinate with USACE engineering elements to support the portfolio risk assessment program for navigation dams that acquires funds for a screening portfolio risk assessment, a potential failure mode analysis of the navigation structure, and an interim risk reduction measures program to reduce the risk at that navigation structure. The interim risk reduction measures program is an ongoing program until the risks at that navigation structure have been permanently resolved.

#### C.5.7.1.3.5. Hydraulic Steel Structure Inspections

Coordinate with USACE engineering elements to support the evaluation of steel structures that are fracture critical (failure of a structural member could result in the failure of the structure): bulkheads, tainter gates, lift gates, miter gates, etc.

#### C.5.7.1.3.6. Bridge Inspection Program

Coordinate with USACE engineering elements to support the inspection of and reports on the structural integrity of USACE-owned public and nonpublic bridges that cross locks, dams, and other NavLocks System structures.

#### C.5.7.1.4. Design Services

Coordinate with USACE engineering elements to determine the most efficient and effective structure and procedures for procuring design services. These services will be aligned and funded to meet the quality, timeliness, and performance requirements of the NavLocks System in TE-8 FY2006 Navigation Business Line Expense.

#### C.5.7.1.5. Supervision and Administration of Construction Projects

Coordinate with USACE construction elements to provide efficient and effective support as required for NavLocks System construction projects. These services will be aligned and funded to meet the quality, timeliness, and performance requirements of the NavLocks System.

#### C.5.7.1.6. Surveying (Land)

Coordinate with USACE engineering elements to support surveying services as required. These services will be aligned and funded to meet the quality, timeliness, and performance requirements of the NavLocks System.

#### C.5.7.2. General and Administrative Services (Off-Site)

Coordinate with USACE headquarters, divisions, and district organizational elements to determine the most efficient and effective structure and procedures for providing general and administrative services. These services, which include functions such as security, safety, human resources, legal, finance, and accounting, will be aligned and funded to meet the quality, timeliness, and performance requirements of the NavLocks System.

#### C.5.7.3. Real-Estate Tech Support

Coordinate with USACE real-estate elements to determine the most efficient and effective structure and procedures for procuring real-estate services. These services, which include right-of-entry permits for dredging, real property inventories, easement and lease negotiations, and in-grant and out-grant negotiations, will be aligned and funded to meet the quality, timeliness, and performance requirements of the NavLocks System.

#### C.5.7.4. Planning, Programs, and Project Management

Coordinate with USACE Planning, Programs, and Project Management Division (PPPM) elements to determine the most efficient and effective structure and procedures for procuring services. These services will be aligned and funded to meet the quality, timeliness, and performance requirements of the NavLocks System.

To ensure effective PPPM support for system availability, the following activities are required:

##### C.5.7.4.1. Environmental Services/Biological Opinions

Provide efficient and effective environmental support as required for navigation activities. These services will be aligned and funded to meet the quality, timeliness, and performance requirements of the NavLocks System.

##### C.5.7.4.2. Budgeting and Funding

Provide efficient and effective budgeting and funding support activities as required for NavLocks System activities. These services will be aligned and funded to meet the quality, timeliness, and performance requirements of the NavLocks System.

##### C.5.7.4.3. Planning, Programming, and Project Management Services

Provide efficient and effective planning, programming, and project management (PPPM) services as required for navigation activities. These services will be aligned and funded to meet the quality, timeliness, and performance requirements of the NavLocks System.

#### C.5.7.5. Contracting Support

Coordinate with USACE contracting elements to determine the most efficient and effective structure and procedures for procuring services. These services will be aligned and funded to

meet the quality, timeliness, and performance requirements of the NavLocks System. (TE-7, FY2006 Contracts)

#### C.5.8. CHANNEL O&M

Perform all functions, including project management and oversight, of channel O&M within the NavLocks System. Conduct actions necessary to keep channels open to navigation to meet navigation performance standards.

To maintain channel (and system) availability, the following activities are required:

##### C.5.8.1. Dredging

Perform navigation channel dredging to meet NavLocks System performance requirements. This includes mechanical and hydraulic dredging of the NavLocks System and dredging in St. Mary's River, Missouri River, and intracoastal waterways. Excluded are hopper dredging, sidecast dredging, and coastal dredging under normal conditions. (TE-9, Workload)

##### C.5.8.2. Dredge Material Management

Provide proper in-water or upland dredged material placement according to Federal and State requirements when the dredging occurs in the NavLocks System (this does not include placement of coastal dredged material).

##### C.5.8.3. Water Quality

Comply with State and Federal water quality terms and standards. Select and fund the provider of choice to perform water quality analysis.

##### C.5.8.4. Bank Stabilization, Dikes, and Revetments

Maintain bank stabilization, dikes, and revetments to ensure the navigability of the channels. Construct and repair river control structures, such as rock protection, wing, and closure dams (including dike and revetment notching).

##### C.5.8.5. Aids to Navigation (Fixed and Floating)

Identify and mark hazards to navigation, other than Coast Guard mandated aids to navigation (marker piles, stone mounds, etc., to help vessels avoid grounding).

##### C.5.8.6. Obstruction Removal

Remove natural occurring obstructions to maintain the NavLocks System functionality. Non-natural obstructions will be handled according to Federal and State laws and procedures and MOAs/MOUs with other agencies.



#### C.5.8.7. Channel Reconnaissance and Hydrographic Surveys (Channel Patrol)

Perform channel reconnaissance and hydrographic surveys to uncover channel impediments that could cause vessel groundings and restrict the use of navigation channels.

#### C.5.8.8. River Harbor Maintenance Dredging

Plan, schedule, and dredge harbors within the NavLocks System to ensure lock system availability.

### C.5.9. MAJOR REHABILITATION AND NEW PROJECT CONSTRUCTION

Identify, request, and fund the planning and reporting activities required to request major rehabilitations and new construction. This work includes the O&M-funded preparation activities that precede a major rehabilitation. Specific tasks include data acquisition, data analysis (“what if” scenarios), and project justification documentation. These reports must be completed in accordance with Project Management Division guidance and formats.

#### C.5.10. MOORING/PROTECTION CELLS (BRIDGES, APPROACHES) REPAIR AND REPLACEMENT

Construct and repair Federal mooring and protection cells within the NavLocks System for the continuity and safety of the navigation mission, including periodic inspections to assess current condition.

#### C.5.11. NONNAVIGATION EMERGENCY RESPONSE

Respond to emergency activities for which USACE is responsible, assess the impact to performance of the NavLocks System mission, and report this assessment to higher management for resolution. (TE-10, FY2006 Emergency Response)

Provide support for natural disasters and public emergencies (such as hurricane response) in accordance with past practice and local staffing levels, and maintain adequate emergency response capabilities. NavLocks performance and costs will be considered on the basis of the level and severity of the nonnavigation emergencies.

## C.6. REFERENCES, REGULATIONS, FORMS, AND REPORTS

### C.6.1. REFERENCES AND REGULATIONS

References and regulations are written directives that define and clarify how USACE tasks and missions should be performed. Regulations mandate performance requirements and standards of functional duties and actions that the NavLocks System function must meet. References and regulations help USACE monitor and evaluate productivity and provide structure to the USACE working environment. To access USACE publications, go to <http://www.usace.army.mil/publications>. Army publications, including regulations (AR) and

pamphlets (PAM) are found at <http://www.apd.army.mil/>. DoD issuances, including directives (DoDD), instructions (DoDI), and publications, are found at <http://www.dtic.mil/whs/directives/>.

Due to changes in the USACE work environment, references and regulations periodically change and may be superseded or become obsolete. Table 1 shows references and regulations current as of 2005, which may not necessarily represent the most current at the time of the PWS solicitation.

#### C.6.2. FORMS

Forms are documents with blanks for inserting information or details or a fixed order of words or procedures in accordance with specific criteria. Forms are used to request a variety of services, as documentation, and to revise and update services already in place. The use and maintenance of forms is a required part of the workflow process.

#### C.6.3. REPORTS

A report is a formal account of proceedings or transactions in written or verbal format. Reports document critical priorities and decisions, serving as important references and sources of information that enhance the successful completion of job tasks and greatly support research.